

CLAIMS

What is claimed is:

1. An apparatus to convert original content data into a different coding system to generate converted content data and to copy the converted content data instead of the original content data, comprising:

a coding method confirming unit to confirm an original coding method applied to the original content data;

a transcopying unit to convert the original content data into copied content data that is decodable according to a different coding method; and

a management information recording unit to record information indicating that the original content data has been copied in a management information area of the original content data, and to record information indicating that the copied content data has been transcopied from the original content data in a management information area of the copied content data.

2. The data transcopying apparatus of claim 1, wherein said transcopying unit comprises:

a decoding unit to decode the original content data according to the original coding method; and

an encoding unit to encode the decoded content data using the different coding method to generate the copied content data.

3. The data transcopying apparatus of claim 1, further comprising:

a reverting unit to record information indicating that rights information is restored from the copied content data in the management information area of the original content data, and to

confirm whether the copied content data is transcopied from the corresponding original content data so as to restore the original content data from the copied content data.

4. The data transcopying apparatus of claim 1, wherein the management information of the original and/or copied content data includes one of information on a number of times that the content data can be copied, information to distinguish the original content data from the copied content data, and information on an original or different coding methods of the original or copied content data.

5. A content data structure stored on a recordable medium, the content data comprising:

content data comprising one of original and copied content data;

data file information unique to said content data so that said content data is distinguishable from other content data, said data file information comprising information on the corresponding original content data where the content data is copied content data; and

a rights management information area to indicate whether said content data is the original content data or the copied content data transcopied from the original content data, and to indicate rights information related to data transcopying,

wherein said rights management information for the original content data and the copied content data changes according to transcopying situations.

6. The content data structure of claim 5, wherein said rights management information includes one of information on a number of times the content data is allowed to be copied, information to distinguish the original content data from the copied content data, and information on a coding method of said content data.

7. A method for transcopying data, the method comprising:

confirming an original coding method applied to original content data;

setting a different coding method than the original coding method; and

converting the original content data to generate copied content data to be decoded by the different coding method.

8. The data transcopying method of claim 7, wherein said converting the original content data comprises recording information indicating that the original content data was transcopied into the copied content data is recorded in a rights management information area of the original content data, and recording information indicating that the copied content data was transcopied from the original content data in a rights management information area of the copied content data.

9. The data transcopying method of claim 7, further comprising reverting the copied content data to the original content data, said reverting comprising:

confirming whether the copied content data is transcopied from the original content data; and

recording information indicating that the information is restored from the copied content data in a rights management information area of the original content data.

10. A computer-readable medium encoded with a method for transcopying executable by a computer, the transcopying method comprising:

confirming an original coding method applied to original content data;

setting a different coding method than the original coding method; and

converting the original content data to generate copied content data that is decoded by the different coding method.

11. An apparatus to convert data into a different coding system, comprising:  
a copying unit to create copied content data from original content data, where the original and copied content data are decoded using different decoding methods; and  
an information recording unit to record information in one of the original and the copied content data that relates the original and the copied content data.

12. The apparatus of claim 11, wherein the information is copied into both the original and the copied content data and identifies the copied content data as copied from the original content data.

13. The apparatus of claim 11, wherein the information is copied into both the original and the copied content data so as to identify rights of a user to further copy the copied content data and the original content data.

14. The apparatus of claim 11, wherein the information is copied into both the original and the copied content data so as to identify the respective coding methods of the copied content data and the original content data.

15. The apparatus of claim 11, wherein said coding unit comprises:  
a decoding unit that decodes the original content data coded into standard data; and  
an encoding unit to encode the standard data using a different coding method from a coding method used to encode the original content data.

16. The apparatus of claim 15, wherein the information is copied into both the original and the copied content data, where the information

distinguishes the copied content data from the original content data,

identifies rights of a user to further copy the copied content data and the original content data, and

identifies the respective coding methods of the copied content data and the original content data.

17. The apparatus of claim 11, wherein the information is copied into both the original and the copied content data, where the information distinguishes the copied content data from the original content data, identifies rights of a user to further copy the copied content data and the original content data, and identifies the respective coding methods of the copied content data and the original content data.

18. The apparatus of claim 17, wherein the copied content data and the original content data further include ownership information, where the ownership information is the same for both the original and copied content data.

19. The apparatus of claim 18, further comprising an encoding method confirming unit to detect the coding method of the original content data using the information of the original content data.

20. The apparatus of claim 19, further comprising a network interface connecting the apparatus to a network, wherein the original content data is received over the network.

21. The apparatus of claim 19, further comprising a disk drive, wherein the original content data is received from a disk mounted in said disk drive.

22. The apparatus of claim 16, wherein the decoding unit comprises decoders to decode using corresponding coding methods, and the decoding unit selects one of the decoders to decode the original content data using the information identifying the coding method of the original content data.

23. The apparatus of claim 22, wherein the encoding unit comprises encoders to encode content data of multiple coding methods, and the encoding unit selects one of the encoders to encode the standard data according to the selected coding method of the copied content data.

24. The apparatus of claim 19, further comprising a network interface connecting the apparatus to a network, wherein the copied content data is sent over the network to a content data user.

25. A reverting unit to revert copied content data into corresponding original content data from which the copied content data was copied, comprising:

a confirming unit to confirm that the copied content data corresponds to the original content data using identification information in the copied and original content data; and

a control unit to change rights information in the copied and original content data so that the copied content data cannot be reproduced in a content player, and the original content data reflects that the copied content data cannot be reproduced.

26. The reverting unit of claim 25, wherein said confirming unit identifies and finds the corresponding original content data using identification information in the copied content data.

27. The reverting unit of claim 25, further comprising a network interface connecting the reverting unit to a network, wherein the copied content data is received over the network from a content data user to be reverted.

28. An apparatus to distribute content data, comprising:

a copying unit to create copied content data from original content data, where the original and copied content data are decoded using different decoding methods;

a confirming unit to confirm that the copied content data corresponds to the original content data using identification information in the copied and original content data; and

a control unit to

after said copying unit creates the copied content data, to insert identification information in the copied content data relating the copied contents data and the original content data, and to insert information in the original and copied content data indicating that the original content data was copied by said copying unit, and

revert the copied content data into the original content data by changing rights information in the copied and original content data so that the copied content data cannot be reproduced in a content player, and the original content data reflects that the copied content data cannot be reproduced.

29. The apparatus of claim 28, wherein, to revert the copied content data, said control unit identifies and finds the corresponding original content data using the identification information in the copied content data.

30. The apparatus of claim 28, wherein said control unit further controls information in the original and the copied content data that:

distinguishes the copied content data from the original content data,

identifies rights of a user to further copy the copied content data and the original content data, and

identifies the respective coding methods of the copied content data and the original content data.

31. The apparatus of claim 28, wherein said copying unit comprises:

a decoding unit that decodes the original content data coded into standard data, and

an encoding unit to encode the standard data using a different coding method from a coding method used to encode the original content data.

32. The apparatus of claim 28, further comprising a network interface connecting the apparatus to a network, wherein one of the original and copied content data is distributed over the network.

33. The apparatus of claim 28, further comprising a disk drive, wherein one of the original and copied content data is distributed using a disk mounted in said disk drive.

34. A computer-readable medium encoded with data that is readable by a computer, the medium comprising:

content data;

identification information that indicates whether said content data is original content data, or is copied from the original content data; and



rights information that indicates a right of a user to make copies of said content data.

35. The computer-readable medium of claim 34, further comprising information on a coding method of said content data.

36. The computer-readable medium of claim 34, further comprising ownership information that identifies an owner of said content data.

37. The computer-readable medium of claim 34, wherein, if said content data is copied from the original data, said identification information further distinguishes said content data from the original data.

38. The computer-readable medium of claim 37, further comprising information on a coding method of said content data.

39. The computer-readable medium of claim 38, further comprising ownership information that identifies an owner of said content data.

40. The computer-readable medium of claim 34, further comprising information on a coding method of said content data.

41. The computer-readable medium of claim 40, where said content data comprises audio data.

42. The computer-readable medium of claim 40, where said content data comprises image data.